

AMENDMENTS TO THE CLAIMS

Claims 1-44. (Canceled)

45. (Currently Amended) A coplanar waveguide comprising:

a substrate;

a signal conductor line formed over said substrate, wherein said signal conductor line comprises a first conductive layer, said first conductive layer being over and in contact with a barrier layer, said barrier layer being over a first insulating layer on said substrate, and wherein said first insulating layer and said barrier layer are at least partially between said first conductive layer and a top surface of said substrate;

at least two longitudinal ground conductor planes formed over said substrate on both sides of said signal conductor line and spaced apart from said signal conductor line to form respective gaps; and

at least two trenches formed in said substrate at said respective gaps.

46. (Currently amended) The coplanar waveguide of claim 45, wherein ~~said signal conductor line and said ground conductor planes further comprise an~~ comprise a second conductive layer, said second conductive layer being over a second insulating layer on said substrate.

47. (Currently amended) The coplanar waveguide of claim 46, wherein said first and second insulating layers are ~~layer is an~~ oxide layers ~~layer~~.

Claims 48-51. (Canceled)

52. (Currently amended) The coplanar waveguide of claim 47, wherein said oxide ~~layer has~~ layers have a thickness of about 200 Angstroms to about 300 Angstroms.

Claims 53-56. (Canceled)

57. (Original) The coplanar waveguide of claim 45, wherein each of said at least two trenches has a depth of about 100,000 Angstroms to about 200,000 Angstroms.

58. (Original) The coplanar waveguide of claim 45, wherein each of said respective gaps is about 150,000 Angstroms to about 200,000 Angstroms.

59. (Original) The coplanar waveguide of claim 45, wherein said signal conductor line has a width of about 250,000 Angstroms to about 350,000 Angstroms.

60. (Original) The coplanar waveguide of claim 45, wherein said ground conductor planes and said signal conductor line have a thickness of about 100,000 Angstroms to about 200,000 Angstroms.

61. (Original) A processor system comprising:

a processor; and

an integrated circuit coupled to said processor, at least one of said integrated circuit and processor comprising a substrate, a signal conductor line formed over said substrate, at least two longitudinal ground conductor planes formed over said substrate and on both sides of said signal conductor line and spaced apart from said signal conductor line to form respective gaps, and at least two trenches formed in said substrate at said respective gaps.

62. (Original) The system of claim 61, wherein said signal conductor line and said ground conductor planes comprise an insulating layer on said substrate and a conductor layer on top of said insulating layer.

Claims 63-70. (Canceled)

71. (Original) The system of claim 62, wherein said conductor layer comprises copper.

72. (Original) The system of claim 61, wherein each of said at least two trenches has a thickness of about 100,000 Angstroms to about 200,000 Angstroms.

73. (Original) The system of claim 61, wherein each of said respective gaps is of about 150,000 Angstroms to about 200,000 Angstroms.

74. (Original) The system of claim 61, wherein said signal conductor line has a width of about 250,000 Angstroms to about 350,000 Angstroms.

75. (Original) The system of claim 61, wherein said ground conductor planes and signal conductor line has a thickness of about 100,000 Angstroms to about 200,000 Angstroms.

76. (Currently amended) A coplanar waveguide comprising:

a silicon substrate;

a first oxide layer over said substrate;

a signal conductor line formed over said silicon substrate, wherein said first oxide layer is at least partially between said signal conductor line and a top surface of said substrate;

at least two longitudinal ground conductor planes formed over said silicon substrate on both sides of said signal conductor line and spaced apart from said signal conductor line to form respective gaps; and

at least two trenches formed in said silicon substrate at said respective gaps, each of said trenches having a depth of about 100,000 Angstroms to about 200,000 Angstroms and a width of about 100,000 Angstroms to about 150,000 Angstroms.

77. (Currently amended) The coplanar waveguide of claim 76, ~~wherein said signal conductor line and~~ further comprising a second oxide layer on said silicon substrate, said ground conductor planes ~~further comprise an oxide layer on said silicon substrate~~ being over said second oxide layer.

Claims 78-83. (Canceled)

84. (Currently amended) A coplanar waveguide comprising:

a silicon substrate;

a first oxide layer over said substrate;

a signal conductor line formed over said silicon substrate, wherein said first oxide layer is at least partially between said signal conductor line and a top surface of said substrate;

at least two longitudinal ground conductor planes formed over said silicon substrate on both sides of said signal conductor line and spaced apart from said signal conductor line to form respective gaps; and

at least two trenches formed in said silicon substrate at said respective gaps, each of said trenches having a radius of about 50,000 Angstroms to about 100,000 Angstroms.

85. (Currently amended) The coplanar waveguide of claim 84, ~~wherein said signal conductor line and~~ further comprising a second oxide layer on said silicon substrate, said ground conductor planes ~~further comprise an oxide layer on said silicon substrate~~ being over said second oxide layer.

Claims 86-91. (Canceled)